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     FILE 'REGISTRY' ENTERED AT 17:03:50 ON 08 OCT 2009
                  EXP HYDROXYEHTYLSTARCH/CN
                  EXP HYDROXYETHYLSTARCH/CN
                  EXP HYDROXYETHYL STARCH/CN
L1             1 S E3
                  EXP HYDROXYETHYL AMYLO/CN
L2             2 S E4-E5

     FILE 'HCAPLUS' ENTERED AT 17:05:07 ON 08 OCT 2009
L3           982 S L1/THU OR L2/THU
L4        245643 S (MOLECULAR WEIGHT) OR (MOLECULAR MASS) OR KDA OR DALTON
L5            71 S L3 AND L4
L6        297491 S SUBSTITUTION
L7            27 S L5 AND L6
L8            15 S L7 AND (PY<2005 OR AY<2005 OR PRY<2005)
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=> file registry
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

FILE 'REGISTRY' ENTERED AT 17:03:50 ON 08 OCT 2009
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STRUCTURE FILE UPDATES:    7 OCT 2009  HIGHEST RN 1187616-32-5
DICTIONARY FILE UPDATES:   7 OCT 2009  HIGHEST RN 1187616-32-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> exp hydroxyehtylstarch/cn
E1            1     HYDROXYECHINOFURAN B/CN
E2            1     HYDROXYECTOIN/CN
E3            0 --> HYDROXYEHTYLSTARCH/CN
E4            1     HYDROXYEICOSATETRAENOIC ACID/CN
E5            1     HYDROXYELGENOL/CN
E6            1     HYDROXYELTENAC/CN
E7            1     HYDROXYEMODIN/CN
E8            2     HYDROXYEPHEDRINE/CN
E9            1     HYDROXYEPOXYCOLLININ I/CN
E10           1     HYDROXYEPOXYCOLLININ II/CN
E11           1     HYDROXYEREMOPHILONE/CN
E12           1     HYDROXYERGOTAMINE/CN

=> exp hydroxyethylstarch/cn
E1            1     HYDROXYETHYLPACHYMAN/CN
E2            1     HYDROXYETHYLPUERARIN/CN
E3            0 --> HYDROXYETHYLSTARCH/CN
E4            1     HYDROXYETHYLTHEOBROMINE/CN
E5            1     HYDROXYETHYLTHEOPHYLLINE/CN
E6            1     HYDROXYETHYLTHIAMINE/CN
E7            1     HYDROXYETHYLTHIAMINEMONOPHOSPHATE/CN
E8            1     HYDROXYETHYLTHIAZOLE KINASE/CN
E9            1     HYDROXYETHYLTHIAZOLE KINASE (4-METHYL-5-BETA-HYDROXYETHYLTHI
                    AZOLE KINASE) (LACTOBACILLUS SAKEI SAKEI STRAIN 23K GENE THI
                    M)/CN
E10           1     HYDROXYETHYLTHIAZOLE KINASE (4-METHYL-5-BETA-HYDROXYETHYLTHI
                    AZOLE KINASE) (THZ KINASE) (TH KINASE) (METHANOGENIC ARCHAEO
                    N RICE CLUSTER IMRE50 GENE THIM)/CN
E11           1     HYDROXYETHYLTHIAZOLE KINASE (ACINETOBACTER BAUMANNII STRAIN
                    ATCC 17978)/CN
```

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E12          1     HYDROXYETHYLTHIAZOLE KINASE (ACINETOBACTER STRAIN ADP1 GENE
                   THIM)/CN

=> exp hydroxyethyl starch/cn
E1           1     HYDROXYETHYL PROPYL CELLULOSE/CN
E2           1     HYDROXYETHYL RADICAL/CN
E3           1 --> HYDROXYETHYL STARCH/CN
E4           1     HYDROXYETHYL STARCH 130/0.4/CN
E5           1     HYDROXYETHYL STARCH ARGININE ESTER/CN
E6           1     HYDROXYETHYL STARCH LYSINE ESTER/CN
E7           1     HYDROXYETHYL STARCH-POLYETHYLENE GLYCOL DIISOCYANATE COPOLYM
                   ER/CN
E8           1     HYDROXYETHYL STEARYL ETHER/CN
E9           1     HYDROXYETHYL TETRADECYL CELLULOSE/CN
E10          1     HYDROXYETHYL TETRAHYDROPYRANYL CELLULOSE/CN
E11          1     HYDROXYETHYL THIAZOLE KINASE (STAPHYLOCOCCUS AUREUS STRAIN M
                   U50 GENE THIM)/CN
E12          1     HYDROXYETHYL THIAZOLE KINASE (STAPHYLOCOCCUS EPIDERMIDIS STR
                   AIN ATCC12228 GENE SE1691)/CN

=> d e3
NO L# DEFINED

=> s e3
L1           1 "HYDROXYETHYL STARCH"/CN

=> exp hydroxyethyl amylo/cn
E1           1     HYDROXYETHYL ALLYL ETHER-TRIFLUOROCHLOROETHENE-UNDECENOIC AC
                   ID-VINYL ACETATE COPOLYMER/CN
E2           1     HYDROXYETHYL AMIDES/CN
E3           0 --> HYDROXYETHYL AMYLO/CN
E4           1     HYDROXYETHYL AMYLOPECTIN/CN
E5           1     HYDROXYETHYL AMYLOSE/CN
E6           1     HYDROXYETHYL CARBAMATE/CN
E7           1     HYDROXYETHYL CARBAMATE DIMETHYLOL DIMETHYL ETHER/CN
E8           1     HYDROXYETHYL CARBOXYMETHYL CELLULOSE/CN
E9           1     HYDROXYETHYL CELLULOSE/CN
E10          1     HYDROXYETHYL CELLULOSE 1-OXO-N-OCTADECYL ETHER, 3-SULFO-2-HY
                   DROXYPROPYL ETHER/CN
E11          1     HYDROXYETHYL CELLULOSE 2,4-DICHLORO-S-TRIAZIN-6-YL ETHER/CN
E12          1     HYDROXYETHYL CELLULOSE 2-HYDROXY-N-OCTADECYL ETHER, 3-SULFO-
                   2-HYDROXYPROPYL ETHER/CN

=> s e4-e5
             1 "HYDROXYETHYL AMYLOPECTIN"/CN
             1 "HYDROXYETHYL AMYLOSE"/CN
L2           2 ("HYDROXYETHYL AMYLOPECTIN"/CN OR "HYDROXYETHYL AMYLOSE"/CN)

=> file hcaplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                               17.01      17.23

FILE 'HCAPLUS' ENTERED AT 17:05:07 ON 08 OCT 2009
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FILE COVERS 1907 - 8 Oct 2009 VOL 151 ISS 15
FILE LAST UPDATED: 7 Oct 2009 (20091007/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

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http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> s l1/thu or l2/thu
          2604 L1
       1173797 THU/RL
           980 L1/THU
                 (L1 (L) THU/RL)
            36 L2
       1173797 THU/RL
             2 L2/THU
                 (L2 (L) THU/RL)
L3          982 L1/THU OR L2/THU

=> s (molecular weight) or (molecular mass) or kda or dalton
       1390181 MOLECULAR
        180594 WEIGHT
         78454 MOLECULAR WEIGHT
                 (MOLECULAR(W)WEIGHT)
       1390181 MOLECULAR
       1148484 MASS
          2307 MOLECULAR MASS
                 (MOLECULAR(W)MASS)
        157571 KDA
         11219 DALTON
L4       245643 (MOLECULAR WEIGHT) OR (MOLECULAR MASS) OR KDA OR DALTON

=> s l3 and l4
L5           71 L3 AND L4

=> s substitution
L6       297491 SUBSTITUTION

=> s l5 and l6
L7           27 L5 AND L6

=> s l7 and (PY<2005 or AY<2005 or PRY<2005)
      25143061 PY<2005
       5138447 AY<2005
       4616476 PRY<2005
L8           15 L7 AND (PY<2005 OR AY<2005 OR PRY<2005)
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=> d l8 1-15 ti abs bib

L8 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Medicinal agent with volemic effect and method for its preparing
AB The medicinal agent represents hydroxyethylated starch in an aqueous solution containing 5-10% of hydroxyethylated starch with the optimal ratio of substituted hydroxyethyl groups at atoms C2/C6 up to 6:1 in glucose residue, average value of mol. mass 130-450 kDa, narrowed mol.-mass distribution at the substitution degree 0.35-0.70 and 0.80-1.00% of sodium chloride. The agent is prepared using maize or potato starch as the raw material with the content of amylopectin 95%, not less. Starch is subjected for alkaline purification, acidic or enzymic hydrolysis up to preparing products with mol. mass 400-900 kDa up to the required degree of substitution of hydroxyethyl groups. The solution is purified from impurities by ultrafiltration and/or reverse osmosis and purification is carried out using apyrogenic activated carbon and/or by sterilizing filtration and the following thermal sterilization of the end product. The invention provides a new agent for rapid blood pressure recovery after blood loss.
AN 2005:120436 HCAPLUS <<LOGINID::20091008>>
DN 142:162697
TI Medicinal agent with volemic effect and method for its preparing
IN Panov, V. P.; Korotaev, G. K.; Kir'yanov, N. A.; Panov, A. V.; Dolotov, S. M.; Leshnevskii, K. A.; Grineva, L. P.; Kotova, Yu. A.
PA Russia
SO Russ., No pp. given
CODEN: RUXXE7
DT Patent
LA Russian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2245714	C1	20050210	RU 2003-126930	20030904 <--
PRAI RU 2003-126930		20030904 <--		

L8 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Hydroxyethyl starch - can the safety problems be ignored?
AB A review. Hydroxyethyl starch (HES) has come into widespread use for fluid management of acutely ill patients. Certain characteristic complications of HES, notably renal impairment, hemorrhage and pruritus, have been well documented with all types of HES solns. The use of HES solns. with lower mol. weight and substitution has been claimed to minimize these safety risks. In particular, solns. of 200 kDa mol. weight and 0.5 substitution (HES 200/0.5) and of 130 kDa mol. weight and 0.4 substitution (HES 130/0.4) have been advocated for their superior safety profile. A critical appraisal of the available evidence does not provide reassurance that these or other HES solns. are risk free. Most evidence indicates the equivalence of HES 200/0.5 and HES 130/0.4 with respect to effectiveness for volume expansion. Since HES 130/0.4 is newer, its safety profile is less well characterized; however, it appears to share the same complication risks as those of HES 200/0.5. In randomized clin. trials employing sensitive markers, both HES 200/0.5 and HES 130/0.4 have been shown to impair renal function. Both coagulopathy and clin. bleeding have been documented after administration of either HES 200/0.5 or HES 130/0.4, and the magnitude of neg. effects on hemostasis has been similar for these two HES solns. Pruritus is a common side effect of all HES solns., including HES 200/0.5 and HES 130/0.4, and can occur in diverse clin. settings in some cases after only small HES doses. Typically presenting as pruritic crises of delayed onset, this

complication is often severe, protracted and refractory to treatment. An addnl. risk of HES infusion is the occurrence of potentially life-threatening anaphylactoid reactions, which are 4.5 times as frequent after HES as albumin exposure. Limiting the dose and duration of HES therapy may be helpful in lessening the risk of undesired side effects; at present however, reliance on particular HES solns. does not appear sufficient to ensure safety.

AN 2004:1122473 HCAPLUS <<LOGINID::20091008>>
DN 142:273162
TI Hydroxyethyl starch - can the safety problems be ignored?
AU Wiedermann, Christian J.
CS 2nd Department of Internal Medicine, Central Hospital of Bolzano/Bozen, Bolzano, Italy
SO Wiener Klinische Wochenschrift (2004), 116(17-18), 583-594
CODEN: WKWOAO; ISSN: 0043-5325
PB Springer Wien
DT Journal; General Review
LA English
OSC.G 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)
RE.CNT 132 THERE ARE 132 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI The Effects of High Molecular Weight Hydroxyethyl Starch Solutions on Platelets
AB Physicochem. characteristics of hydroxyethyl starch (HES) mols. determine their side effects on hemostasis. Our aim in the present expts. was to test the antiplatelet effect of novel high mol. weight HES. Citrated whole blood was hemodiluted in vitro (0% and 20%) with either HES 550 (Hextend), HES 600 (6%Hetastarch-Baxter), HES 200 (Elohaest), or the solvent of Hextend in its com. available solution The availability of glycoprotein IIb-IIIa was assessed on nonstimulated and on agonist-induced platelets using flow cytometry. Glycoprotein IIb-IIIa availability increased significantly after hemodilution with Hextend and its solvent by 23% and 24%, resp., but decreased in the presence of 6% Hetastarch-Baxter and Elohaest by 18% and 15%, resp., with no significant difference between the latter two colloids. This study shows that Hextend does not inhibit platelet function as anticipated by its high mol. weight and degree of substitution. The unexpected platelet stimulating effect of Hextend is unique among the currently available HES prepns. and may, at least in part, be induced by its solvent containing calcium chloride dihydrate (2.5 mmol/L). The platelet-inhibiting effect of 6%Hetastarch-Baxter was not significantly different from that of medium mol. weight HES 200.

AN 2004:679330 HCAPLUS <<LOGINID::20091008>>
DN 142:245773
TI The Effects of High Molecular Weight Hydroxyethyl Starch Solutions on Platelets
AU Deusch, Engelbert; Thaler, Ulrich; Kozek-Langenecker, Sibylle A.
CS Department of Anesthesiology and Intensive Care, Vienna Medical University, Austria
SO Anesthesia & Analgesia (Hagerstown, MD, United States) (2004), 99(3), 665-668
CODEN: AACRAT; ISSN: 0003-2999
PB Lippincott Williams & Wilkins
DT Journal
LA English
OSC.G 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Highly-branched, low substituted starch products for use as plasma expanders

AB The invention concerns modified hydroxyethyl and hydroxypropyl starches for clin. use as plasma expanders that have a branching degree of 8-20 mol%, a substitution degree (MS) of 0.05-0.3 and mol. weight of 10,000-450,000. The products are used in peritoneal dialysis. According to expts. with rats, the products deplete faster from liver, spleen, lung and kidney than conventional starch products.

AN 2004:198158 HCAPLUS <<LOGINID::20091008>>

DN 140:223241

TI Highly-branched, low substituted starch products for use as plasma expanders

IN Henning, Klaus

PA Fresenius Kabi Deutschland G.m.b.H., Germany

SO Ger. Offen., 5 pp.
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10237442	A1	20040311	DE 2002-10237442	20020816 <--
	DE 10237442	B4	20040819		
	WO 2004022602	A1	20040318	WO 2003-EP8411	20030730 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003251668	A1	20040329	AU 2003-251668	20030730 <--
	EP 1530593	A1	20050518	EP 2003-793660	20030730 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1675248	A	20050928	CN 2003-819356	20030730 <--
	CN 100340578	C	20071003		
	JP 2005539107	T	20051222	JP 2004-533291	20030730 <--
	US 20060032400	A1	20060216	US 2005-524424	20050722 <--
	US 7550446	B2	20090623		
	HK 1080872	A1	20080627	HK 2006-100567	20060113 <--
PRAI	DE 2002-10237442	A	20020816 <--		
	WO 2003-EP8411	W	20030730 <--		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Volume efficacy and reduced influence on measures of coagulation using hydroxyethyl starch 130/0.4 (6%) with an optimised in vivo molecular weight in orthopaedic surgery: a randomised, double-blind study

AB Background and objective: Different types of hydroxyethyl starch (HES) affect blood coagulation differently. The authors studied the effects of HES 130/0.4 on coagulation in major orthopedic surgery in relation to the pharmacol. parameter in vivo mol. weight Methods: 52 patients were randomly allocated to either HES 130/0.4 (6%, mean mol. weight 130 kDa,

molar substitution 0.4) or HES 200/0.5 (6%, control) in a double-blind fashion. Colloidal volume requirements for intra- and postoperative hemodynamic stabilization were compared. Safety analyses of this pharmacol. study included a comparison of coagulation factor tests, in vivo mol. weight, and HES plasma concns. Results: The colloidal vols. given were similar at the end of surgery (1602±569 for HES 130/0.4 vs. 1635±567 mL for HES 200/0.5), 5 h later (1958 ±,467 vs. 1962±398 mL), and up to the first postoperative day (2035±446 vs. 2000±424 mL). HES in vivo mol. weight at the end of surgery was 88,707±13 938 vs. 158,374±33 933 Da ($p < 0.001$) and 5 h later was 86,663±16 126 vs. 136,299±26 208 Da ($p < 0.001$). In parallel to the lower in vivo mol. weight, factor VIII and von Willebrand factor returned to almost normal in the HES 130/0.4 group up to 5 h postoperatively, but not in the control group ($p < 0.05$) Residual HES plasma concns. after 24 h were low in the HES 130/0.4 group (1.0 mg/mL), but higher in the control group (2.6 mg/mL). Conclusion: HES 130/0.4 and HES 200/0.5 were found to be similar with regard to volume efficacy. Sensitive coagulation parameters returned more rapidly to normal in the HES 130/0.4 group. Lower in vivo mol. weight and more rapid excretion of HES 130/0.4 are the likely explanations for the smaller influence on coagulation in this group.

AN 2004:179543 HCAPLUS <<LOGINID::20091008>>
DN 140:228979
TI Volume efficacy and reduced influence on measures of coagulation using hydroxyethyl starch 130/0.4 (6%) with an optimised in vivo molecular weight in orthopaedic surgery: a randomised, double-blind study
AU Jungheinrich, Cornelius; Sauermann, Wilhelm; Bepperling, Frank; Vogt, Norbert H.
CS Clinical Research, Fresenius Kabi, Bad Homburg, Germany
SO Drugs in R&D (2004), 5(1), 1-9
CODEN: DRDDFD; ISSN: 1174-5886
PB Adis International Ltd.
DT Journal
LA English
OSC.G 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Binding of hydroxyethyl starch molecules to the platelet surface
AB Hydroxyethyl starch (HES) solns. impair platelet function by reducing the availability of the fibrinogen receptor. This effect is not mediated by intracellular signal transduction pathways. Also, an unspecific coating of platelets by HES macromols. may be responsible for its antiplatelet effects. To test this hypothesis, the authors investigated the binding of fluorochrome-coupled HES to the surface of human platelets using whole blood flow cytometry. Citrated whole blood from 8 volunteers was incubated (5 min, 22°C, in the dark) with fluorescein isothiocyanate (FITC)-coupled HES (200-kDa mol. weight, 0.5 degree of substitution, 0.042 molar ratio of FITC-conjugation) resulting in 0, 1, 3, 5, 10, 20, and 40% hemodilution. The percentage of platelets binding FITC-HES was determined using a FACSCalibur flow cytometer and CellQuestPro software. The percentage of FITC-pos. platelets increased in a concentration-dependent manner reaching statistical significance at 10% hemodilution. Binding was independent of fibrinogen receptor blockade. The present expts. clearly demonstrate that extracellular binding of HES to the platelet surface is, at least in part, responsible for the antiplatelet effects of HES by blocking the access of ligands to the platelet fibrinogen receptor.
AN 2003:759942 HCAPLUS <<LOGINID::20091008>>
DN 140:139068

TI Binding of hydroxyethyl starch molecules to the platelet surface
AU Deusch, Engelbert; Gamsjager, Thomas; Kress, Hans-Georg; Kozek-Langenecker, Sibylle A.
CS Department of Anesthesiology and Intensive Care (B), School of Medicine, University of Vienna, Vienna, Austria
SO Anesthesia & Analgesia (Hagerstown, MD, United States) (2003), 97(3), 680-683
CODEN: AACRAT; ISSN: 0003-2999
PB Lippincott Williams & Wilkins
DT Journal
LA English
OSC.G 15 THERE ARE 15 CAPLUS RECORDS THAT CITE THIS RECORD (15 CITINGS)
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI The effects of hydroxyethyl starch solutions on thromboelastography in preoperative male patients
AB Hydroxyethyl starches (HES) have been shown to decrease clot strength and to increase coagulation times assessed by thromboelastog. (TEG). HES with minimal anticoagulant side-effects is beneficial for plasma volume expansion in the perioperative setting. A comparison of the in vivo effects of high, middle and low mol. weight HES solns. on TEG variables has not been performed so far. Blood was obtained before and after i.v. infusion (10 mL kg-1) of either saline, HES 70/0.5/4 (mol. weight in kDa/degree of substitution/C2:C6 ratio), HES 130/0.4/9, HES 200/0.6/9.4, or HES 450/0.7/4.6 in 50 otherwise healthy patients. Thromboelastog. was performed in 360 μl of 1% celite activated citrated whole blood after recalcification. HES 450/0.7/4.6 prolonged reaction time indicating impairment of the plasmatic coagulation system. TEG parameters indicative for platelet function, including angle α, maximum amplitude and coagulation time, deteriorated after infusion of HES 450/0.7/4.6 and HES 70/0.5/4. HES 200/0.6/9.4 and HES 130/0.4/9 impaired platelet contribution to hemostasis only partially, decreasing two or one TEG platelet parameters, resp. Infusion of HES 450/0.7/4.6 compromises TEG parameters more than the other solns. tested, whereas HES 130/0.4/9 has the smallest effect. Further outcome-related studies are needed to assess the clin. relevance of our findings.
AN 2003:137114 HCAPLUS <<LOGINID::20091008>>
DN 138:297342
TI The effects of hydroxyethyl starch solutions on thromboelastography in preoperative male patients
AU Felfernig, M.; Franz, A.; Braunlich, P.; Fohringer, C.; Kozek-Langenecker, S. A.
CS Department of Anesthesiology and Intensive Care B, School of Medicine, University of Vienna, Vienna, Austria
SO Acta Anaesthesiologica Scandinavica (2003), 47(1), 70-73
CODEN: AANEAB; ISSN: 0001-5172
PB Blackwell Munksgaard
DT Journal
LA English
OSC.G 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Highly flexible starch-based films
AB Film-forming compns. comprise, on a dry solid basis, 25-75% by weight starch derivs. and 25-75% primary external plasticizer. The starch derivs. can be chemical modified starches that range in mol. weight from 100,000 to 2,000,000. The high levels of plasticizer in the films give excellent

film flexibility and integrity. The films are also resistant to penetration by water, oil and/or grease. Thu, a slurry (1000 g)was formed from 230 g starch containing 2% hydroxyethyl substitution, acid hydrolyzed to give a viscosity of 1000 cps at 15% cooked paste solids, 230 g crystalline fructose and sufficient water.

AN 2002:754990 HCAPLUS <<LOGINID::20091008>>
DN 137:253044
TI Highly flexible starch-based films
IN Gilleland, G. M.; Turner, J. L.; Patton, P. A.; Harrison, M. D.
PA A. E. Staley Mfg. Co., USA
SO U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U.S. Ser. No. 585,846.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020142031	A1	20021003	US 2001-792910	20010226 <--
	US 6649188	B2	20031118		
	US 6528088	B1	20030304	US 2000-585846	20000601 <--
	WO 2001092401	A2	20011206	WO 2001-US14978	20010509 <--
	WO 2001092401	A3	20020502		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1292639	A2	20030319	EP 2001-935205	20010509 <--
	EP 1292639	B1	20090311		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	AT 425215	T	20090315	AT 2001-935205	20010509 <--
PRAI	US 2000-585846	A2	20000601	<--	
	US 2001-792910	A	20010226	<--	
	WO 2001-US14978	W	20010509	<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L8 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Effects of resuscitation with hydroxyethyl starch (HES) on pulmonary hemodynamics and lung lymph balance in hemorrhagic sheep; comparative study of low- and high-molecular-weight HES
AB Studies of extremely low- and high-mol.-weight HES were performed to evaluate the effects of these solns. on lung lymph filtration during resuscitation. Conscious sheep were bled from an arterial line to maintain shock. After 2 h of hemorrhage, the following solns. were infused for 1 h: low-mol.-weight HES (mol. weight 70,000, substitution fractions 0.5-0.55); high-mol.-weight HES (mol. weight 450,000, substitution fractions 0.65); normal saline. The amount of solution infused was the same as the volume of blood lost. Both low- and high-mol.-weight HES equally restored systemic arterial pressure and cardiac output and increased pulmonary microvascular pressure. However, the actual oncotic pressure gradient (plasma/lymph) rose transiently during infusion of low-mol.-weight HES, while high-mol.-weight HES increased the oncotic pressure gradient even after cessation of the infusion. Lung lymph flow during and after resuscitation with low-mol.-weight HES and saline rose significantly from the preshock value.

There was no significant difference between low-mol.-weight HES and saline with respect to effects on lung lymph flow. However, lung lymph flow after high-mol.-weight HES was less than that after low-mol.-weight HES. These data suggest that low-mol.-weight HES is as useful as a plasma substitute as high-mol.-weight HES but has the possibility of increasing lung lymph filtration during the early phase of resuscitation.

AN 2002:41206 HCAPLUS <<LOGINID::20091008>>
DN 137:195249
TI Effects of resuscitation with hydroxyethyl starch (HES) on pulmonary hemodynamics and lung lymph balance in hemorrhagic sheep; comparative study of low- and high-molecular-weight HES
AU Kaneki, Toshimichi; Koizumi, Tomonobu; Yamamoto, Hiroshi; Fujimoto, Keisaku; Kubo, Keishi; Shibamoto, Toshishige
CS First Department of Internal Medicine, Shinshu University School of Medicine, Shinshu, 390-8621, Japan
SO Resuscitation (2002), 52(1), 101-108
CODEN: RSUSBS; ISSN: 0300-9572
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Effects of hydroxyethylstarch and gelatin on renal function in severe sepsis: a multicenter randomized study
AB Hydroxyethylstarch used for volume restoration in brain-dead kidney donors has been associated with impaired kidney function in the transplant recipients. We undertook a multicenter randomized study to assess the frequency of acute renal failure (ARF) in patients with severe sepsis or septic shock treated with hydroxyethylstarch or gelatin. Adults with severe sepsis or septic shock were enrolled prospectively in three intensive-care units in France. They were randomly assigned 6% hydroxyethylstarch (200 kDa, 0·60-0·66 substitution) or 3% fluid-modified gelatin. The primary endpoint was ARF (a two-fold increase in serum creatinine from baseline or need for renal replacement therapy). Analyses were by intention to treat. Severity of illness and serum creatinine (median 143 [IQR 88-203] vs. 114 [91-175] μmol/L) were similar at baseline in the hydroxyethylstarch and gelatin groups. The frequencies of ARF (27/65 [42%] vs. 15/64 [23%], p=0·028) and oliguria (35/62 [56%] vs. 23/63 [37%], p=0·025) and the peak serum creatinine concentration (225 [130-339] vs. 169 [106-273] μmol/L, p=0·04) were significantly higher in the hydroxyethylstarch group than in the gelatin group. In a multivariate anal., risk factors for acute renal failure included mech. ventilation (odds ratio 4·02 [95% CI 1·37-11·8], p=0·013) and use of hydroxyethylstarch (2·57 [1·13-5·83], p=0·026). The use of this preparation of hydroxyethylstarch as a plasma-volume expander is an independent risk factor for ARF in patients with severe sepsis or septic shock.
AN 2001:221381 HCAPLUS <<LOGINID::20091008>>
DN 135:220973
TI Effects of hydroxyethylstarch and gelatin on renal function in severe sepsis: a multicenter randomized study
AU Schortgen, F.; Lacherade, J.-C.; Bruneel, F.; Cattaneo, I.; Hemery, F.; Lemaire, F.; Brochard, L.
CS Medical Intensive-Care Unit, Hopital Henri Mondor, Assistance Publique-Hopitaux de Paris, University Paris 12, Creteil, 94000, Fr.
SO Lancet (2001), 357(9260), 911-916
CODEN: LANCAO; ISSN: 0140-6736

PB Lancet Ltd.
DT Journal
LA English
OSC.G 51 THERE ARE 51 CAPLUS RECORDS THAT CITE THIS RECORD (51 CITINGS)
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Low- and medium-molecular-weight hydroxyethyl starches: Comparison of their effect on blood coagulation
AB High-mol.-weight hydroxyethyl starch (HES) compromises blood coagulation more than medium-mol.-weight HES. The authors compared medium mol. weight HES (200 kd [HES200]) and low-mol.-weight HES (70 kd [HES70]). In a prospective, double-blind, randomized-sequence crossover study, 22 male volunteers received 15 mL/kg HES200 and HES70. Blood samples were taken before and 5 min, 30 min, 1 h, 2 h, 4 h, 8 h, and 24 h after infusion. The following parameters were analyzed at all time points: prothrombin time, activated partial thromboplastin time, fibrinogen, factor VIII, antigenetic and functional von Willebrand factor, platelets, Thrombelastograph anal. parameters (reaction time, coagulation time, maximum amplitude, angle α, and clot lysis 30 and 60 min after maximum amplitude), ionized Ca, hematocrit, HES blood plasma concentration, mol. weight (weight average and number average), molar substitution, and polydispersity (weight average/number average). Repeated-measures anal. of variance was used to compare the response of the aforementioned parameters to the infusion of HES70 and HES200. Both HES solns. had an impact on all parameters. A slightly greater compromise with HES200 was found in activated partial thromboplastin time, factor VIII, antigenetic von Willebrand factor, functional von Willebrand factor, maximum amplitude, and angle α. No difference was established with the other parameters. HES concentration, weight average, number average, and polydispersity were higher with HES200. There was no difference with molar substitution. Low-mol.-weight hydroxyethyl starch (70 kd) compromises blood coagulation slightly less than HES200, but it is unclear whether this is clin. relevant.
AN 2000:850186 HCAPLUS <<LOGINID::20091008>>
DN 135:302
TI Low- and medium-molecular-weight hydroxyethyl starches: Comparison of their effect on blood coagulation
AU Jamnicki, Marina; Bombeli, Thomas; Seifert, Burkhardt; Zollinger, Andreas; Camenzind, Vladimir; Pasch, Thomas; Spahn, Donat R.
CS Institute of Anesthesiology, University Hospital, Zurich, CH-8091, Switz.
SO Anesthesiology (2000), 93(5), 1231-1237
CODEN: ANESAV; ISSN: 0003-3022
PB Lippincott Williams & Wilkins
DT Journal
LA English
OSC.G 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS RECORD (29 CITINGS)
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Hydroxyethylstarch conjugates their production, and contrast agents containing them
AB Injected conjugates of hydroxyethylstarch with metal complexes remain confined to the intravascular space and are therefore useful as blood pool contrast agents in medical diagnosis. These agents accumulate in regions with high vascular permeability such as tumors, and can be used to demonstrate the degree of tissue perfusion, e.g. in diagnosis of myocardial infarction. They show high relaxivity in MRI, and have a

carrying capacity for paramagnetic ions of .apprx.20%. They show good excretion behavior, good stability, and good biocompatibility (no data). Thus, hydroxyethylstarch (mol. weight 40 kDa) reacted with ClCH2CO2H in alkaline solution to form Na O-(carboxymethyl)hydroxyethylstarch (degree of substitution 1.1), which was amidated with the Gd complex of 10-(2-hydroxy-3-aminopropyl)-4,7,10-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane.

AN 1999:549187 HCAPLUS <<LOGINID::20091008>>

DN 131:185191

TI Hydroxyethylstarch conjugates their production, and contrast agents containing them

IN Mareski, Peter; Platzek, Johannes; Raduechel, Bernd; Niedballa, Ulrich; Weinmann, Hanns-Joachim

PA Schering Aktiengesellschaft, Germany

SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9942139	A2	19990826	WO 1999-EP853	19990209 <--
	WO 9942139	A3	19990930		
	W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19808079	A1	19990826	DE 1998-19808079	19980220 <--
	AU 9928328	A	19990906	AU 1999-28328	19990209 <--
PRAI	DE 1998-19808079	A	19980220 <--		
	WO 1999-EP853	W	19990209 <--		

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Increased hemorrhagic risk after repeated infusion of highly substituted medium molecular weight hydroxyethyl starch

AB Infusion of large vols. of high mol. weight hydroxyethyl starch (HES) has been known to lead to coagulation disorders. Medium mol. weight starch is considered a safe alternative, even after repeated administration. In 10 patients with cerebrovascular diseases, a 10-day hemodilution was carried out using 10% HES 200/ 0.62. Initially, a loading dose of 500 mL was administered once over 4560 min, followed by 500 mL maintenance dose per day for 10 days. Its high intravascular mol. weight (120,000 D) showed that cleavage of the starch is slowed due to the higher degree of substitution. The continuous increase of HES-serum concentration to 27.7 mg/mL gave evidence of a cumulation of poorly degradable mols. Although this caused a prolonged volume effect, plasma viscosity and erythrocyte aggregation were influenced in an unfavorable way. The neg. effects were most evident in their influence on the coagulation system. Under therapy, a significant 42.8% increase in activated partial thromboplastin time occurred. Factor VIII:C, von Willebrand ristocetin cofactor and von Willebrand factor antigen dropped during the therapy below the hemostasiol. limit of 30%, and in some patients below 10%. A high degree of substitution, particularly after repeated infusion, leads to a cumulation of large mols. that are difficult to break down and which unfavorably affect rheol. and hemostasiol. parameters.

AN 1997:93454 HCAPLUS <<LOGINID::20091008>>

DN 126:246632
OREF 126:47554h,47555a
TI Increased hemorrhagic risk after repeated infusion of highly substituted medium molecular weight hydroxyethyl starch
AU Treib, Johannes; Haass, Anton; Pindur, Gerhard; Grauer, Markus T.; Jung, Friedel; Wenzel, Ernst; Schimrigk, Klaus
CS Department Neurology, University Saarland, Homburg, D-66421, Germany
SO Arzneimittel-Forschung (1997), 47(1), 18-22
CODEN: ARZNAD; ISSN: 0004-4172
PB Cantor
DT Journal
LA English
OSC.G 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

L8 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI All medium starches are not the same: influence of the degree of hydroxyethyl substitution of hydroxyethyl starch on plasma volume, hemorheologic conditions, and coagulation
AB After the administration of high vols. of high-mol.-weight starch (hetastarch), bleeding complications have repeatedly been observed Later studies showed that the application of medium-mol.-weight starch led to far fewer disturbances of the blood coagulation system. However, the relationships among the degree of hydroxyethyl substitution, the rate of degradation, and the average in vivo mol. weight have not been investigated.
A 10-day hemodilution treatment (n = 20) was carried out using two medium-mol.-weight hydroxyethyl starches (HES) with a degree of hydroxyethyl substitution of 0.5 and 0.62, resp. (10% HES 200 was used for a substitution of 0.5 and 6% HES 200 for a substitution of 0.62). After a loading dose of 500 mL was administered, 1000 mL of HES was infused daily for 4 days, and then 500 mL was infused daily for 6 days. The more highly substituted starch was broken down more slowly and eliminated renally. This resulted in a higher intravascular mol. weight than for the less highly substituted HES (120 vs. 84 kDa) and a greater increase in serum concentration (20.3 vs. 9.0 mg/mL). Initially, the more highly substituted 6-percent HES had a lesser effect on plasma volume ($p<0.01$). Because of HES accumulation, there was no longer a significant difference between the starches by the end of treatment, even though a higher dose of the 10-percent low-substitution starch was infused. Six-percent HES caused an increase in plasma viscosity (+9%, $p<0.01$) that was due to an accumulation of macromols. Ten-percent HES 200/0.5 had no effect on the coagulation system beyond the dilution effect. Six-percent HES, on the other hand, led to an acquired von Willebrand syndrome during the course of the 10-day therapy. Factor VIII function was reduced by 72.2 percent, von Willebrand ristocetin cofactor by 61.3 percent, and von Willebrand factor antigen by 64 percent ($p<0.01$). Thus, it is the intravascular and not the initial (in vitro) mol. weight that dets. the properties of HES. Especially after repeated administration, a high degree of hydroxyethyl substitution leads to an accumulation of macromols. that affect hemorheol. measures and the coagulation system just as adversely as high-mol.-weight starch does. Depending on the degree of substitution, medium-mol.-weight starches can have widely differing properties.
AN 1996:443362 HCAPLUS <<LOGINID::20091008>>
DN 125:158096
OREF 125:29307a,29310a
TI All medium starches are not the same: influence of the degree of hydroxyethyl substitution of hydroxyethyl starch on plasma volume, hemorheologic conditions, and coagulation
AU Treib, J.; Haass, A.; Pindur, G.; Grauer, M.T.; Wenzel, E.; Schimrigk, K.
CS Department of Neurology, University of the Saarland, Homburg, Germany

SO Transfusion (Bethesda, Maryland) (1996), 36(5), 450-455
CODEN: TRANAT; ISSN: 0041-1132
PB American Association of Blood Banks
DT Journal
LA English
OSC.G 36 THERE ARE 36 CAPLUS RECORDS THAT CITE THIS RECORD (36 CITINGS)

L8 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Influence of intravascular molecular weight of hydroxyethyl starch on platelets
AB Complications concerning the blood coagulation have been observed repeatedly after administration of highly substituted, high mol. weight hydroxyethyl starch (HES), but it has not been examined as to how intravascular mol. weight and degree of substitution of HES influence platelet number and volume after repeated administration. Thirty patients with cerebrovascular diseases were treated for 10 days with hemo-dilution 500 To 1500 mL of HES 200/0.62 (n=10), HES 200/0.5 (n=10) or HES 40/0.5 (n=10) were infused daily. During the first days, the number of platelets was not lowered beyond the dilution effect, but at the end of the therapy the number of platelets had increased in all 3 groups beyond the initial value. Platelet volume was lowered significantly in the 3 groups. HES 200/0.62 caused the largest drop in platelet volume (-10%, $p<0.01$). A possible explanation could be that HES macromols. are attached to platelets or are phagocytized by them. The larger platelets are then broken down and, to compensate the loss, more thrombocytes are released. A correlation between the mol. weight of HES and the breakdown rate of the platelets can be suspected, because HES 200/0.62 had the highest intravascular mean mol. weight (121 kD) and the largest effect on platelet volume
AN 1996:244160 HCAPLUS <<LOGINID::20091008>>
DN 124:332408
OREF 124:61377a,61380a
TI Influence of intravascular molecular weight of hydroxyethyl starch on platelets
AU Treib, J.; Haass, A.; Pindur, G.; Treib, W.; Wenzel, E.; Schimrigk, K.
CS Dept. Neurology, University the Saarland, Homburg/Saar, D-66421, Germany
SO European Journal of Haematology (1996), 56(3), 168-72
CODEN: EJHAEC; ISSN: 0902-4441
PB Munksgaard
DT Journal
LA English
OSC.G 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)